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1FW

**POWER OF ATTORNEY OR  
AUTHORIZATION OF AGENT AND  
CORRESPONDENCE ADDRESS**

Application Number	10/804,828
Filing Date	March 19, 2004
First Named Inventor	Qingsheng Zheng
Confirmation Number	7115
Group Art Unit	2121
Examiner Name	Not Assigned
Attorney Docket Number	1086.2017-001

Title Methods and Articles for Detecting, Verifying, and Repairing Collinearity in a Model or Subsets of a Model

I/We hereby appoint

- ☒ the attorneys/agents associated with **Customer No. 021005**  
☐ Practitioner(s) named below:

as my/our attorneys/agents to prosecute the application identified above, including any continuation or divisional applications thereof, and to transact all business in the United States Patent and Trademark Office connected therewith.

The correspondence address for the above-identified application is:

- ☒ Customer Number 021005  
Hamilton, Brook, Smith & Reynolds, P.C.  
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P.O. Box 9133  
Concord, Massachusetts 01742-9133  
☐ Other

Please direct all telephone calls and facsimiles to:

Name Mary Lou Wakimura, Esq. Tel. No. 978-341-0036 Fax No. 978-341-0136

I am the:

- ☐ Applicant/Inventor.  
☒ Authorized representative of the Assignee, Aspen Technology, Inc., of the entire interest. See 37 C.F.R. § 3.71. A Statement under 37 C.F.R. § 3.73(b) is enclosed.  
☐ Authorized representative of the Assignee, [ ], together with [ ], of the entire interest. A Statement under 37 C.F.R. § 3.73(b) is enclosed.

**SIGNATURE of Applicant or Assignee of Record**

Name & Title	Stephen J. Doyle, Chief Legal Officer and General Counsel
Signature	
Date	9/28/04



Docket No. 1086.2017-001

STATEMENT UNDER 37 C.F.R. § 3.73(b)

Inventor(s): Qingsheng Zheng, Magiel J. Harmse, Kent Rasmussen, and Blaine McIntyre

Application No.: 10/804,828 Filed Date: March 19, 2004

For: Methods and Articles for Detecting, Verifying, and Repairing Collinearity in a Model or Subsets of a Model

Aspen Technology, Inc., a corporation  
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is

- A. ☒ the assignee of the entire right, title and interest in the patent application identified above; or
- B. ☐ an assignee together with [ ] of the entire right, title and interest in the patent application identified above.

The right, title and interest of the above-named assignee in the patent application identified above is established by virtue of:

- A. ☒ An assignment from the inventor(s) of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s) of the patent application identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Date: 9/28/04

Name: Stephen J. Doyle

Title: Chief Legal Officer / General Counsel

Signature: [Signature]

# COPY

Docket No. 1086.2017-001

Joint

## ASSIGNMENT

WHEREAS, we, **Qingsheng Zheng, Magiel J. Harmse, Kent Rasmussen, and Blaine McIntyre**, have invented a certain improvement in **Methods and Articles for Detecting, Verifying, and Repairing Collinearity in a Model or Subsets of a Model** described in an application for Patent,

- ☐ the specification of which is being executed on even date herewith and is about to be filed in the United States Patent Office (*use for utility (37 CFR § 1.53(b)) and design filings only*);
- ☐ is about to be filed in the United States Patent Office as a Provisional Application;
- ☒ the specification of which is United States Application No. **10/804,828**, filed **March 19, 2004**;
- ☐ the specification of which is a Patent Cooperation Treaty Application, International Application No. ☐, which designates the United States of America;
- ☐ which was patented under United States Patent No. ☐.

WHEREAS, **Aspen Technology, Inc.** (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the **State of Delaware**, and having a usual place of business at **10 Canal Park, Cambridge, Massachusetts 02141** desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue on said invention; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;


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AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of any future applications including substitution, reissue, divisional or continuation applications, and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

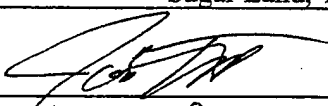
AND, we do hereby authorize and request each Patent Office and the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said invention to said ASSIGNEE, its successors, assigns, and legal representatives.

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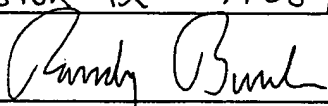
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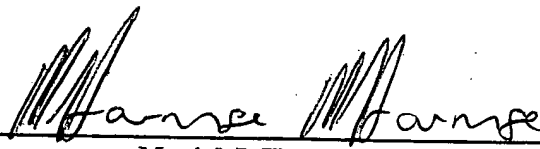
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Docket No. 1086.2017-001

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Inventor \_\_\_\_\_ Date \_\_\_\_\_

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